STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706 • (208) 373-0502

C.L. "Butch" Otter, Governor
Toni Hardesty, Director

October 26, 2010

Mr. Ken Marcy
U.S. Environmental Protection Agency
12928 SW 276th Street
Vashon, WA 98070

RE: Abbreviated Preliminary Assessment Reports and Recommendations for Determination for the Calumet, Isabel, and Hecla patented mining claims

Dear Mr. Marcy:

The Idaho Department of Environmental Quality (DEQ) has completed the attached Abbreviated Preliminary Assessments (APAs), on a number of mines located in the Texas Mining District. These mine claims have been subdivided into 14 parcels most of which now have recreational residences located on them. The properties are currently owned by a number of different parties identified in the attached tables.

Although there are a number of residences and sensitive receptors located on the three subdivided claims, there was no evidence of hazardous materials of waste observed at the properties, nor is there the potential of any having been there. As a result of our observations, DEQ is recommending this site be designated as "No Remedial Action Planned" (NRAP).

The APAs will be entered into DEQ's Waste Division Inventory database. A link to the APAs can also be found on DEQ's Preliminary Assessment Web page at:

http://www.deq.idaho.gov/waste/prog_issues/mining/pa_program.cfm

If you have any questions about these sites, reports, or DEQ's recommendations, please do not hesitate to call me at (208) 373-0554.

Respectfully,

Bruce A. Schuld
Mine Waste Projects Coordinator

attachments

cc: Maggie Baker – USDA National Forest Service, Region IV
Jeff Gabardi – USDA Sawtooth National Forest, Twin Falls
PA Program file

ABBREVIATED PRELIMINARY ASSESSMENT CHECKLIST

This checklist can be used to help the site investigator determine if an Abbreviated Preliminary Assessment (APA) is warranted. This checklist should document the rationale for the decision on whether further steps in the site investigation process are required under CERCLA. Use additional sheets, if necessary.

Checklist Preparer: Bruce A. Schuld 08/24/10
Mine Waste Program Coordinator
Idaho Department of Environmental Quality
1410 N. Hilton, Boise, ID 83706
(208)373-0554
bruce.schuld@deq.idaho.gov

Site Name: Hecla Patented Claim

Previous Names (if any): aka Silver Moon Mine and Mill sites

Site Location: 2 mile south of Gilmore, Idaho

T13N, R27E, Sec. 21 83464 (Zip)

Latitude: N 44.4347^{o} **Longitude:** W 113.2608^{o}

Describe the release (or potential release) and its probable nature:

This site was investigated for potential releases of heavy metals and sediment from mine waste dumps, and potential discharges of other deleterious materials, such as petroleum products and ore processing chemicals.

Part 1 - Superfund Eligibility Evaluation

If all answers are "no" go on to Part 2, otherwise proceed to Part 3.	**YES**	**NO**
1. Is the site currently in CERCLIS or an "alias" of another site?		**x**
2. Is the site being addressed by some other remedial program (Federal, State, or Tribal)?		**x**
3. Are the hazardous substances potentially released at the site regulated under a statutory exclusion (e.g., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or regulated by the NRC, UMTRCA, or OSHA)?		**x**
4. Are the hazardous substances potentially released at the site excluded by policy considerations (i.e., deferred to RCRA corrective action)?		**x**
5. Is there sufficient documentation to demonstrate that no potential for a release that could cause adverse environmental or human health impacts exists (e.g., comprehensive remedial investigation equivalent data showing no release above ARARs, completed removal action, documentation showing that no hazardous substance releases have occurred, or an EPA approved risk assessment completed)?	**x**	

Please explain all "yes" answer(s). Indirect and direct observations, plus historical records research confirmed that contaminants of concern do not exist in concentrations that present a threat to human health or the environment.

Part 2 - Initial Site Evaluation
For Part 2, if information is not available to make a "yes" or "no" response, further investigation may be needed. In these cases, determine whether an APA is appropriate. Exhibit 1 parallels the questions in Part 2. Use Exhibit 1 to make decisions in Part 3.

If the answer is "no" to any of questions 1, 2, or 3, proceed directly to Part 3.	**YES**	**NO**
1. Does the site have a release or a potential to release?		**x**
2. Does the site have uncontained sources containing CERCLA eligible substances?		**x**
3. Does the site have documented on-site, adjacent, or nearby targets?		**X**

If the answers to questions 1, 2, and 3 above were all "yes" then answer the questions below before proceeding to Part 3.	**YES**	**NO**
4. Does documentation indicate that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site?		**X**
5. Is there an apparent release at the site with no documentation of exposed targets, but there are targets on site or immediately adjacent to the site?		**X**
6. Is there an apparent release and no documented on-site targets or targets immediately adjacent to the site, but there are nearby targets (e.g., targets within 1 mile)?		**X**
7. Is there no indication of a hazardous substance release, and there are uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on site or in proximity to the site?		**X**

Notes:

Recreational home sites are located within the subject area; however, there are no potential risks to human health or the environment. Very little mining activities occurred in this area and no waste dumps, adits, or discharges were observed. **(See attached Silver Moon Mine and Mill site area Photo Log and Site Conditions.)**

EXHIBIT 1 SITE ASSESSMENT DECISION GUIDELINES FOR A SITE

Exhibit 1 identifies different types of site information and provides some possible recommendations for further site assessment activities based on that information. You will use Exhibit 1 in determining the need for further action at the site, based on the answers to the questions in Part 2. Please use your professional judgment when evaluating a site. Your judgment may be different from the general recommendations for a site given below.

Suspected/Documented Site Conditions		APA	Full PA	PA/SI	SI
1. There are no releases or potential to release.		**Yes**			
2. No uncontained sources with CERCLA-eligible substances are present on site.		**Yes**			
3. There are no on-site, adjacent, or nearby targets.		**Yes**			
4. There is documentation indicating that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site.	Option 1: APA SI Option 2: PA/SI	**Yes** **No**			
5. There is an apparent release at the site with no documentation of targets, but there are targets on site or immediately adjacent to the site.	Option 1: APA SI Option 2: PA/SI	**No** **No**			
6. There is an apparent release and no documented on-site targets and no documented targets immediately adjacent to the site, but there are nearby targets. Nearby targets are those targets that are located within 1 mile of the site and have a relatively high likelihood of exposure to a hazardous substance migration from the site.		**No**			
7. There is no indication of a hazardous substance release, and there are not uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on site or in proximity to the site.		**No**			

Part 3 - EPA Site Assessment Decision

When completing Part 3, use Part 2 and Exhibit 1 to select the appropriate decision. For example, if the answer to question 1 in Part 2 was “no,” then an APA may be performed and the “NFRAP” box below should be checked. Additionally, if the answer to question 4 in Part 2 is “yes,” then you have two options (as indicated in Exhibit 1): Option 1 --conduct an APA and check the “Lower Priority SI” or “Higher Priority SI” box below; or Option 2 -- proceed with a combined PA/SI assessment.

Check the box that applies based on the conclusions of the APA:

x	NFRAP		Refer to Removal Program – further site assessment needed
	Higher Priority SI		Refer to Removal Program - NFRAP
	Lower Priority SI		Site is being addressed as part of another CERCLIS site
	Defer to RCRA Subtitle C		Other: _____
	Defer to NRC		

Regional EPA Reviewer:

Bruce A. Schuld Bruce A. Schuld 11/1/10

Print Name/Signature Date ~~8/24/10~~

PLEASE EXPLAIN THE RATIONALE FOR YOUR DECISION:

This claim contains no historic mine developments. Its dominant features include 5 individual home sites, most of which have some level of domestic development located on them. However, as a result of our observations, DEQ is recommending this site be designated as "No Remedial Action Planned" (NRAP).

NOTES: (SEE ATTACHED)

Mine/Mill Name	Parcel #	Owners	Mine aka	T R S	Latitude	Longitude	State's Recommendation
18 unpatented claims: Big Moose, Moose No. 2, Mohawk No. 1, Mohawk No. 2, Grace Phelan, Snow Bird, Settler, Blue Sage No. 1, Blue Sage No. 2, Patty Ann, Ridge No. 1, C.P.Ross No. 1, C.P.Ross No. 2, C.P.Ross No. 3, Craig No. 1, Craig No. 2, Craig No. 3, Craig No. 4	None Designated	Mixed Ownership--USFS 18 unpatented claims.	Silver Moon Group	T13N R27E Sections 20, 21, 28, 29	44.43331	-113.26437	PENDING
Hecla Mill Site	RP99000020005H	John W. Fortner 2040 Midway Ammon, ID 83406	Hecla Patent	T13N R27E 21	44.43755	-113.25924	NRAP
Hecla Mill Site	RP99000020005I	Chuck and Carol Curran c/o Jose Gonzales 2329 Belmont Ave. Idaho Falls, ID 83404-6413	Hecla Patent	T13N R27E 21	44.43471	-113.26082	NRAP
Hecla Mill Site	RP99000020005J	Bruce and Suzette Horton Revocable Living Trust 220 East Shelly Street Idaho Falls, ID 83402-2215	Hecla Patent	T13N R27E 21	44.43554	-113.26037	NRAP
Hecla Mill Site	RP99000020005K	UNKNOWN	Hecla Patent	T13N R27E 21	44.43641	-113.25966	NRAP
Isabel Mill Site	RP99000020005S	Paul Simmons 1066 Yellowstone Avenue Apt # 25 Pocatello, ID 83201	Isabel Patent	T13N R27E 21	44.43334	-113.25913	NRAP
Isabel Mill Site	RP99000020005T	Larry Simmons 8523 N 25th E Idaho Falls, ID 83401	Isabel Patent	T13N R27E 21	44.43404	-113.25861	NRAP
Isabel Mill Site	RP99000020005U	Larry Simmons 8523 N 25th E Idaho Falls, ID 83401	Isabel Patent	T13N R27E 21	44.43482	-113.25795	NRAP

Mine/Mill Name	Parcel #	Owners	Mine aka	T R S	Latitude	Longitude	State's Recommendation
Isabel Mill Site	RP99000020005V	Glenn & Connie Embree aka Constance Revocable Family Trust 485 N 4154 E Rigby, ID 83442	Isabel Patent	T13N R27E 21	44.43561	-113.25763	NRAP
Isabel Mill Site	RP99000020005W	Ann Marie Harmon 250 Yale Avenue Rexburg, ID 83440	Isabel Patent	T13N R27E 21	44.43621	-113.25703	NRAP
Calumet Mill Site	RP99000020005N	Steve & Jan Nickels 11620 N Faith Lane Pocatello ID 83202	Calumet Patent	T13N R27E 21	44.44162	-113.25808	NRAP
Calumet Mill Site	RP99000020005O	Ronald Mizia 240 Beacon Drive Idaho Falls, ID 83402	Calumet Patent	T13N R27E 21	44.44072	-113.2583	NRAP
Calumet Mill Site	RP99000020005P	Larry & Patsy Lounsbury c/o Juis Soria 334 N 4100 E Rigby, ID 83442	Calumet Patent	T13N R27E 21	44.43997	-113.2587	NRAP
Calumet Mill Site	RP99000020005Q	Gary Beardall 477 E 14th Street Idaho Falls, ID 83404	Calumet Patent	T13N R27E 21	44.43905	-113.25878	NRAP
Calumet Mill Site	RP99000020005R	Doug & Robert Morrow 240 N Berlin Rd #17 Idaho Falls ID 83402	Calumet Patent	T13N R27E 21	44.43824	-113.25888	NRAP

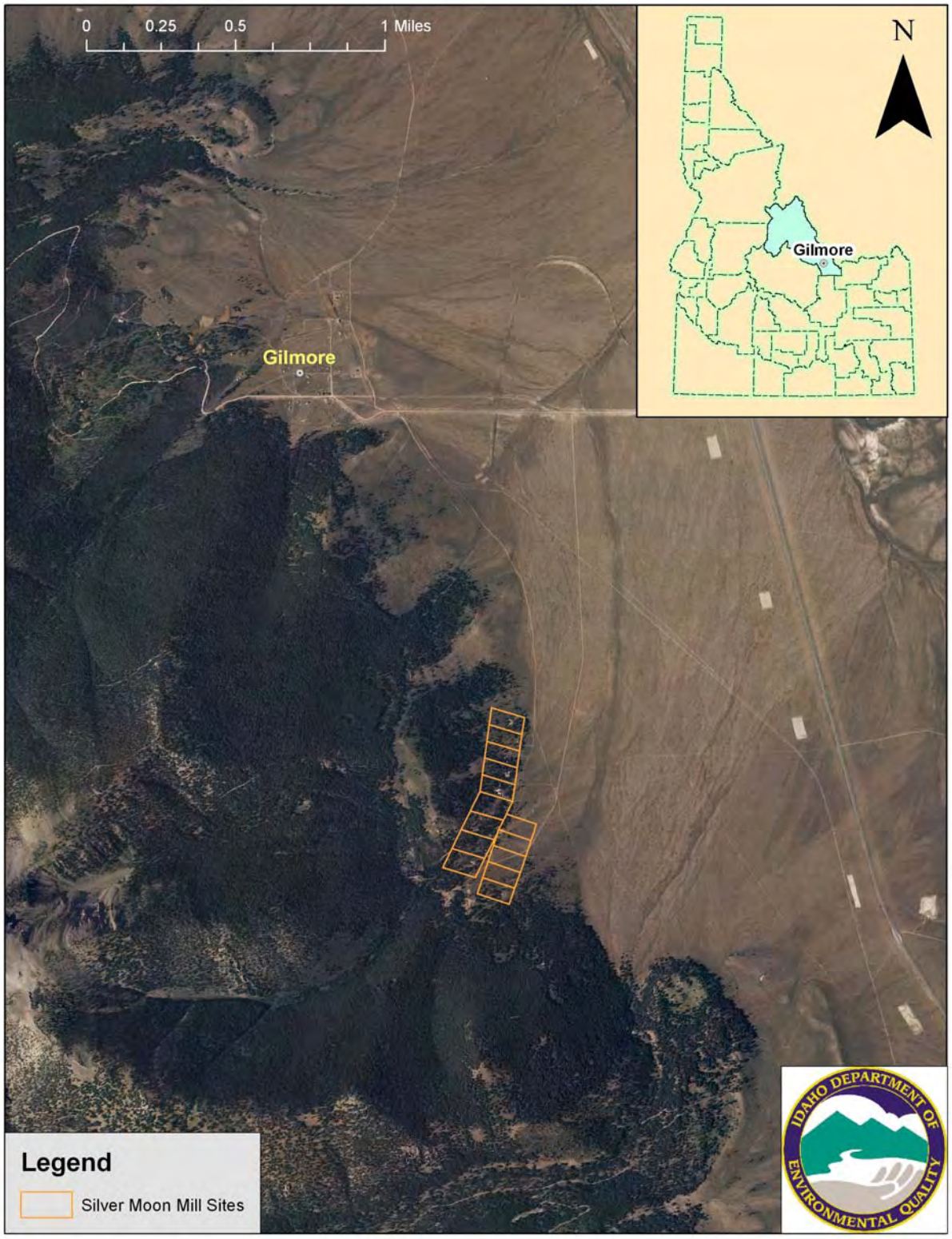


Figure 1. Location of the Silver Moon Mill Sites with Lemhi County 2010 Parcel Data overlay. (Map source: Lemhi County NAIP 2004)

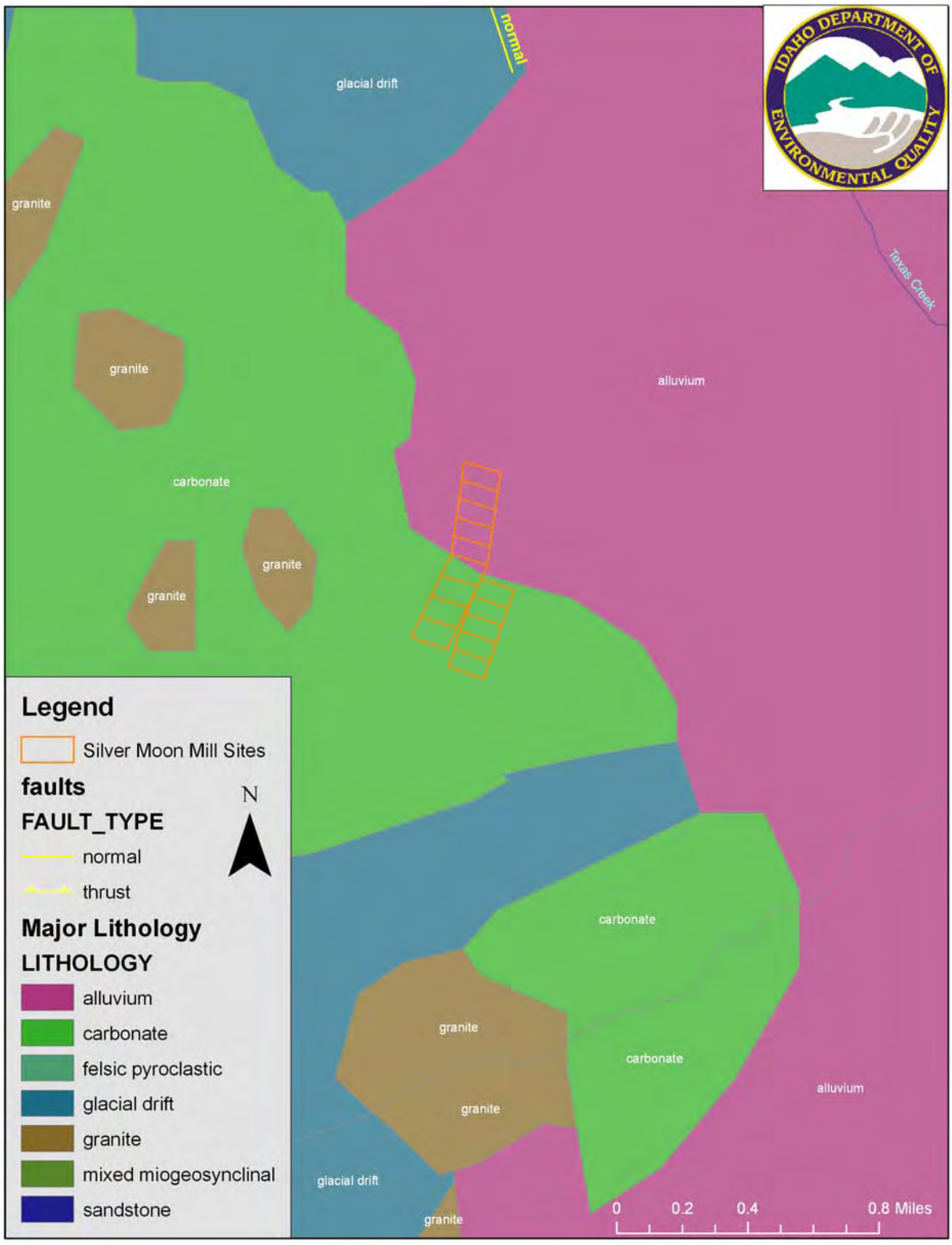


Figure 2. Lithology of the Silver Moon Mill Sites. (Map source: Idaho DEQ ArcSDE 9.2 Geodatabase)

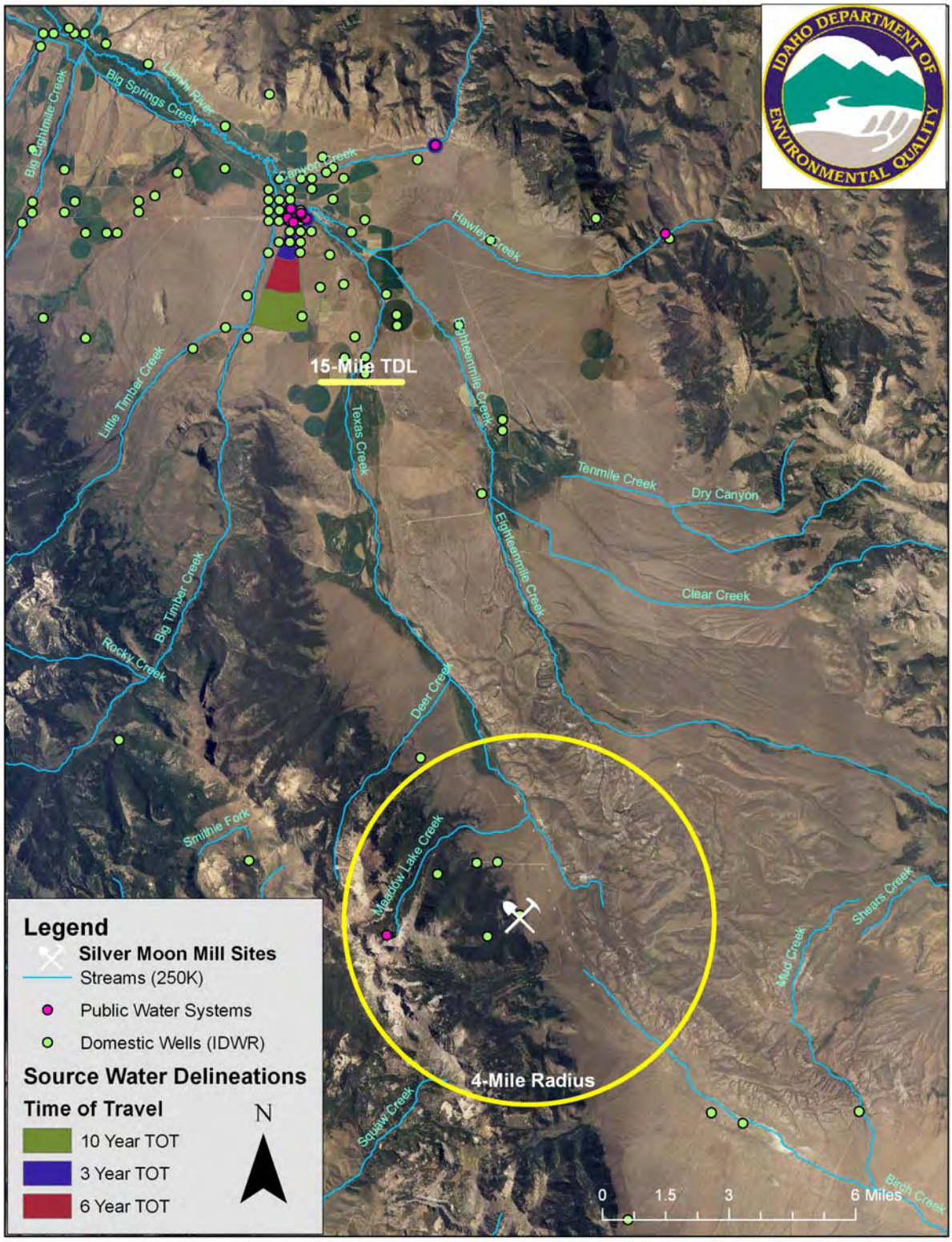


Figure 3. Drinking water well locations and source water delineations. 15-Mile Target Distance Limit (TDL). (Map source: Lemhi County NAIP 2004)

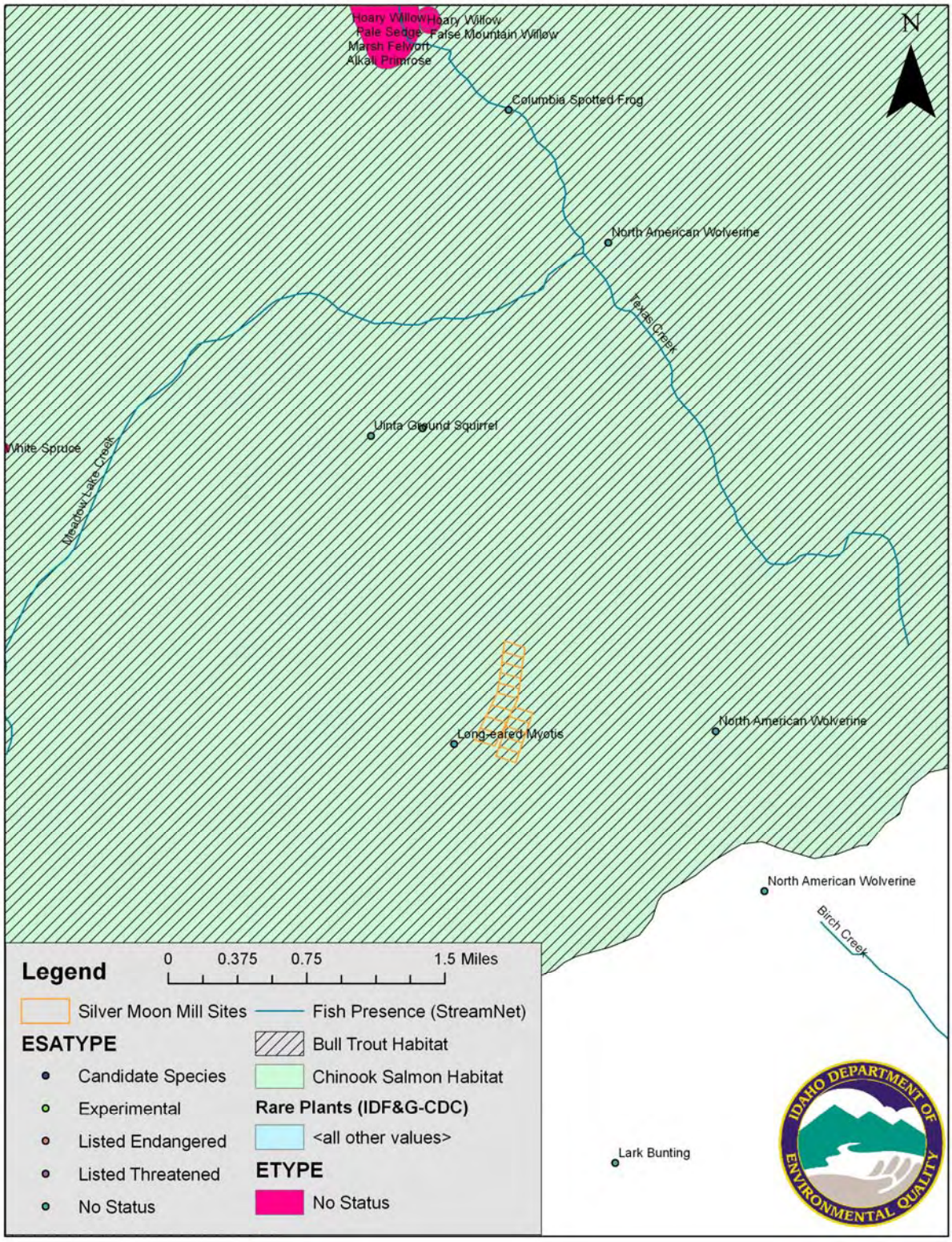


Figure 4. Sensitive species near the Silver Moon Mill Sites. (Map source: Idaho DEQ ArcSDE 9.2 Geodatabase)

Silver Moon Photo Log and Site Conditions

Silver Moon Gulch and the area just outside it in the Lemhi River Valley contain mixed ownership lands administered by the USDA Forest Service and numerous private individuals or families. Within the area is the Silver Moon Mine with 18 unpatented mine claims and the Hecla, Isabel, and Calumet patented claims. Access was granted to several home sites on the Hecla, Isabel, and Calumet claims sites and observations were made of adjacent properties and conditions leading DEQ to recommend No Remedial Actions Planned (NRAP) or any further investigations made of the mill sites.



Photo 1. Historical Marker for the Gilmore Mining area of the Texas Mining District. (B. Schuld 5/12/10)



Photo 2. Much of the Texas Gilmore area has been subdivided or is being subdivided and sold for recreational residential development. (B. Schuld 5/12/10)



Photo 3. Much of the Texas Gilmore area has been subdivided or is being subdivided and sold for recreational residential development. (B. Schuld 5/12/10)

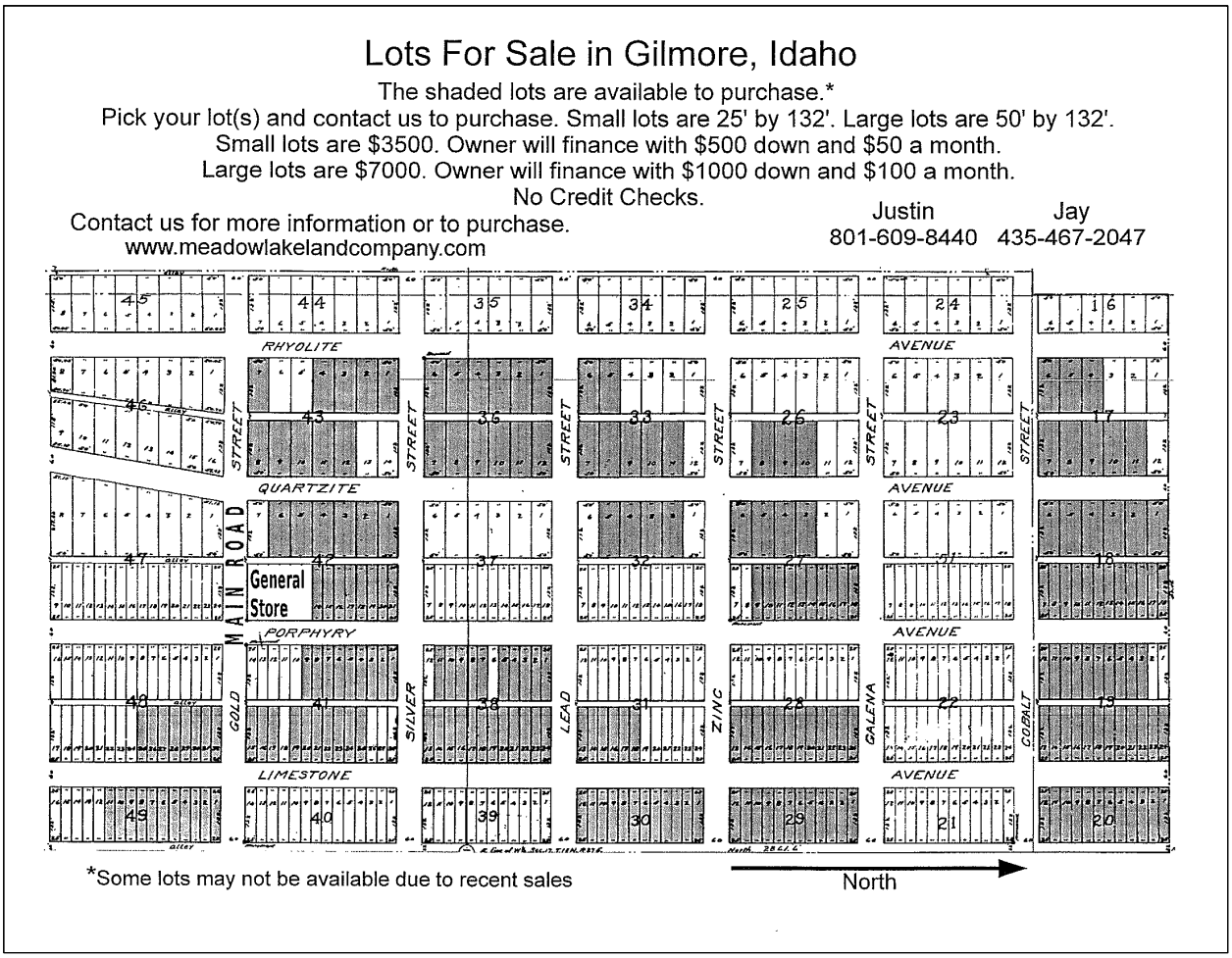


Figure 1. Flyer promoting lots for sale in Gilmore.



Photo 4. Silver Moon Mine bunkhouse and office on USDA administered lands. (B. Schuld 5/12/10)



Photo 5. Historic mine office for the Silver Moon Mine.
(B. Schuld 5/12/10)



Photo 6. Historic mine office for the Silver Moon Mine.
(B. Schuld 5/12/10)



Photo 7. Dangerous Open Adit #1 Silver Moon Mine Lat 44.434300º Long ˉ113.26500º. (B. Schuld 5/12/10)

Silver Moon Mine Adit #1 is open and poses a significant physical hazard. However, the waste dump contains less than 100 cubic yards of waste rock dominated by dolomite with little evidence of sulfides. It does not constitute human health or ecological risks due to heavy metals.



Photo 8. Silver Moon Mine Adit #2 is an open and dangerous physical hazard. Lat. 44.43417º Long ˉ113.26500º. (B. Schuld 5/12/10)

Silver Moon Mine Adit #2 is open and poses a significant physical hazard. However, the waste dump contains less than 100 cubic yards of waste rock dominated by dolomite with little evidence of sulfides. It does not constitute human health or ecological risks due to heavy metals.



Photo 9. Silver Moon Mine Adit #3 is an open and dangerous physical hazard. Lat. 44.43385º Long 113.26400º. (B. Schuld 5/12/10)

Silver Moon Mine Adit #3 is open and poses a significant physical hazard. However, the waste dump contains less than 1,000 cubic yards of waste rock dominated by dolomite with little evidence of sulfides. It does not constitute human health or ecological risks due to heavy metals.



Photo 10. Silver Moon Mine Waste Dump #1 is the site of the closed Shaft #1 (above). (B. Schuld 7/20/10)

Waste Dump #1 is the largest of the Silver Moon Mine Waste dumps and contains country rock derived from driving Shaft #1 and at least two adits located west of Shaft #1. The waste dump covers approximately three acres and contains over 10,000 cubic yards of material.

A composite waste sample (SMWD1SS1) from seven surficial sites was collected on Waste Dump #1. After removal of the first few inches of debris and organic matter, approximately 1 lb of sample was extracted from each of the sites and placed in a stainless steel bowl. The samples were mixed and then sieved through a 9 mesh screen. Approximately 30 percent passed the 9 mesh screen. The other 70 percent was typically +1/2-inch to three inches in size. However, there was a large volume or percentage of material on the dump 4 to 24 inches in size. Little or no massive sulfides were noted on the dump and the material was dominated by highly altered dolomite (marble).



Photo 11. Silver Moon Shaft #1 and headframe backfilled. (B. Schuld 7/20/10)



Photo 12. Caved adit(s) behind (west) Silver Moon Shaft #1 and headframe. (B. Schuld 7/20/10)



Photo 13. North half of Silver Moon Waste Dump #1. (B. Schuld 7/20/10)



Photo 14. Silver Moon Shaft #1 and headframe. (B. Schuld 7/20/10)



Photo 15. Remnants of hunting camp near Silver Moon Shaft #2 approximately 300 feet north of Silver Moon Shaft #1. (B. Schuld 7/20/10)

Numerous uses of the area were evident including residential development, off road vehicle (ORV) touring of historical mines, hunting, fishing, and camping.



Photo 16. Caved adit or stope adjacent to Silver Moon Shaft #2. (B. Schuld 7/20/10)



Photo 17. Collapsed Silver Moon Mine Shaft #2 Lat 44.43370º Long -113.26400º. (B. Schuld 7/20/10)



Photo 18. Open adit and waste dump in spur to Silver Moon Gulch on USDA administered lands Lat 44.434600º Long ˉ113.26500º. (B. Schuld 7/20/10)



Photo 19. Unknown open adit and dump, containing less than 500 cubic yards, was sampled (UKAD1SS1)Lat 44.43454º Long ˉ113.26600º. (B. Schuld 7/20/10)

There was evidence of people digging in the waste dump labeled UKWD1.



Photo 20. Open adit and waste dump in spur to Silver Moon Gulch on USDA administered lands Lat 44.434600º Long ˉ113.26500º. (B. Schuld 7/20/10)



Photo 21. Open adit and waste dump in spur to Silver Moon Gulch on USDA administered lands Lat 44.434600º Long ˉ113.26500º. (B. Schuld 7/20/10)



Photo 22. Unnamed open adit on USDA administered lands Lat 44.43957º Long ˉ113.26690º. (B. Schuld 7/20/10)



Photo 23. Unnamed open adit on USDA administered lands Lat 44.43957º Long ˉ113.26690º. (B. Schuld 7/20/10)



Photo 24. Unnamed open shaft on USDA administered lands in spur to Silver Moon Gulch at Lat 44.44097º Long ˉ113.26640º. (B. Schuld)

Due to the number of open dangerous adits and shafts found on the lands administered by the USDA Forest Service, DEQ will recommend a mine opening inventory be completed by the USDA and, where appropriate, access is restricted since several were found immediately adjacent to heavily used ORV trails and dispersed campsites. DEQ is not recommending the historic significance be destroyed, but rather the physical risks are managed.



Photo 26. Silver Moon Gulch background soil sample (SMBGSS1) Lat 44.43197º Long ˉ113.26500º. (B. Schuld 7/20/10)

Silver Moon Gulch was sampled for background analysis approximately 500 feet above the mine workings and development. The sample SMBGSS1 was buff or brown colored, contained less than 10 percent organics, and had >60 percent passing the 9 mesh sieve. The -9 mesh fraction was bagged and submitted for total metals.



Photo 27. The Silver Moon Mine Decline has been closed and retrofitted with a bat gate Lat 44.43238 Long ˉ113.26100. (B. Schuld 5/12/10)

The dump surrounding the Silver Moon Decline was very large (> 5,000 cubic yards) and has been significantly altered by earth moving equipment. Therefore, it was not possible to determine how much material was country rock extracted from the excavation or was ore material. A composite sample was collected using a similar methodology as on Waste Dump #1.

Seven random sites were selected, sampled, and composited for total metals analysis. Sample SMDSS1 was buff or brown colored, contained less than 10 percent organics, and had >60 percent passing the 9 mesh sieve. The -9 mesh fraction was bagged and submitted for total metals.



Photo 28. Silver Moon caved Adit #6 and Waste Dump #6. (B. Schuld 7/20/10)

Silver Moon Waste Dump #6 appeared to be very well vegetated. However, there were several areas where massive sulfides were apparent in heavily altered and stained dolomite. Therefore sample SMWD6SS1 was collected at this location. Sample SMWD6SS1 was buff or brown colored, contained less than 10 percent organics, and had >60 percent passing the 9 mesh sieve. The -9 mesh fraction was bagged and submitted for total metals.



Photo 29. Bruce Horton's cabin and site of domestic well sampling for ground water quality associated with Silver Moon Mine workings and mineralization. Lat 44.43499º Long ˉ113.26000º (B. Schuld 7/20/10)

Three patented claims (Hecla, Isabel and Calumet) are located just outside of and to the north of Silver Moon Gulch. These claims have been subdivided into 14 home sites of approximately 5 acres each. The individual parcels are designated on the Lemhi County Tax Roll as RP99000020005 H – K, and RP99000020005 N – W (See Ownership Table 1, attached).

Access was somewhat restricted, so direct observations were made on only three of the 14 home sites on the Hecla, Isabel, and Calumet claims. Indirect observations on the remaining home sites were made from public roads bordering the properties. On the three sites inspected by DEQ, there was no evidence to any volumes of hazardous or deleterious wastes warranting cleanup or management. Observations of the remaining 11 home sites led DEQ to conclude these properties did not contain any large volumes of wastes requiring management. Therefore, DEQ has concluded the three claims should be designated NRAPs.

Although there are several deep domestic wells located in the area, access was only given to Mr. Bruce Horton's. His property is located on the Hecla claim, immediately outside of Silver Moon Gulch and down gradient from the surface and underground mine workings. Mr. Horton's well is approximately 500' deep. Mr. Horton's well was sampled (SMGW1) on 7/20/10. Initially the well was run for approximately 10 minutes to allow the pump and local storage to be purged. Sample containers and filtering towers were rinsed three times with well water to cleanse them of contaminants. A sample was collected and acidified for analysis of total metals concentrations. A second sample was collected and filtered through a 45 µ filter and pressurized tower, placed in a rinsed container and acidified. Field parameters were also collected at the well head using a calibrated Horiba and rinsed reservoir. Field parameters are:

Parameters	**Horton Well**
pH	7.75 std. units
Specific Conductance	0.298 µsiemen/cm
Turbidity	<10 NTUs
Dissolved Oxygen	10.63 mg/L
Temperature	11.5ºC
Salinity	.01%

There was no available background source for ground water.

Form 238-7
6/02

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

74

Office Use Only
Well ID No.
Inspected by
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 0020730
DRILLING PERMIT NO.
Water Right or Injection Well No.

2. OWNER:
Name Bruce Horton
Address 220 East Shelley ST
City Idaho Falls State Id Zip 83402

3. LOCATION OF WELL by legal description:
You must provide address or Lot, Blk, Sub. or Directions to well.
Twp. 13 North ☒ or South ☐
Rge. 27 East ☒ or West ☐
Sec. 29, ____ 1/4 (10 acres) SE 1/4 (40 acres) NW 1/4 (160 acres)
Gov't Lot ____ County Lemhi
Lat: : : **Long:** : :
Address of Well Site Silver moon Gulch
City Gilmore
(Give at least name of road + Distance to Road or Landmark)
Lt. ____ Blk. ____ Sub. Name Silver Moon

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other

6. DRILL METHOD:
☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other

7. SEALING PROCEDURES

Seal Material	From	To	Weight / Volume	Seal Placement Method
Bentonite	0	18		

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 96 FT
Was drive shoe seal tested? ☐ Y ☒ N How?

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+18"	96	.250	Steel	☒	☐	☒	☐
4½"	-20	500	Sch 80	PVC	☐	☒	☐	☒
					☐	☐	☐	☐

Length of Headpipe ____ Length of Tailpipe ____
Packer ☐ Y ☒ N Type

9. PERFORATIONS/SCREENS PACKER TYPE
Perforation Method Circular Saw
Screen Type & Method of Installation

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
480	100	1/8"	3 per Ft	4.5"	PVC	☐	☒
						☐	☐
						☐	☐

10. FILTER PACK

Filter Material	From	To	Weight / Volume	Placement Method

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
200 ft. below ground · Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices:
Well Cap

12. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
5 gpm	N/A	490 FT	3½ HRS

Water Temp. Cold Bottom hole temp. Cold
Water Quality test or comments: None
Depth first Water Encounter 295 FT

13. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
10"	0	2	Top soil		X
	2	10	shale Rock		X
	10	18	Shale Rock		X
6"	18	20	Shale Rock		X
	20	40	shale Rock		X
	40	80	shale Rock		X
	80	90	clay		X
	90	93	shale Rock		X
	93	100	Solid Rock		X
	100	160	Solid Rock		X
	160	200	Solid Rock		X
	200	300	Solid Rock	X	
	300	400	solid Rock	X	
	400	500	Solid Rock	X	

RECEIVED
FEB 14 2007
Department of Water Resources
Eastern Region

Completed Depth 500 FT (Measurable)
Date: Started 7-6-05 Completed 7-8-05

14. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name JAFCO Firm No. 504
Principal Driller [signature] Date 7-10-05
and
Driller or Operator II ____ Date ____
Operator I ____ Date ____
Principal Driller and Rig Operator *Required.*
Operator I must have signature of Driller/Operator II.

Mailed 2/14/07 kmf RCH FORWARD WHITE COPY TO WATER RESOURCES

One Government Gulch - PO Box 929 Kellogg ID 83837-0929 (208) 784-1258 Fax (208) 783-0891

IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0G0719**
Reported: 10-Aug-10 15:52

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
SMWD1SS1	W0G0719-01	Soil	20-Jul-10 09:00	BS	27-Jul-2010
SMBGSS1	W0G0719-02	Soil	20-Jul-10 10:00	BS	27-Jul-2010
SMDSS1	W0G0719-03	Soil	20-Jul-10 12:00	BS	27-Jul-2010
SMWD6SS1	W0G0719-04	Soil	20-Jul-10 13:00	BS	27-Jul-2010
GTADSS1	W0G0719-05	Soil	21-Jul-10 16:00	BS	27-Jul-2010
AMAD1SS1	W0G0719-06	Soil	22-Jul-10 08:00	BS	27-Jul-2010
UKADSS1	W0G0719-07	Soil	22-Jul-10 10:00	BS	27-Jul-2010
GMBGSS1	W0G0719-08	Soil	22-Jul-10 11:00	BS	27-Jul-2010

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.
Sample preparation is defined by the client as per their Data Quality Objectives.
This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.
The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

One Government Gulch - PO Box 929 Kellogg ID 83837-0929 (208) 784-1258 Fax (208) 783-0891

IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0G0719**
Reported: 10-Aug-10 15:52

Client Sample ID: **SMWD1SS1**
SVL Sample ID: **W0G0719-01 (Soil)**

Sampled: 20-Jul-10 09:00
Received: 27-Jul-10
Sampled By: BS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	**Antimony**	90.7	mg/kg	2.0	0.3		W031189	DG	08/10/10 11:14	
EPA 6010B	**Arsenic**	112	mg/kg	2.5	0.5		W031189	DG	08/10/10 11:14	
EPA 6010B	**Barium**	623	mg/kg	0.20	0.02		W031189	DG	08/10/10 11:14	
EPA 6010B	**Cadmium**	4.58	mg/kg	0.20	0.03		W031189	DG	08/10/10 11:14	
EPA 6010B	**Chromium**	17.2	mg/kg	0.60	0.07		W031189	DG	08/10/10 11:14	
EPA 6010B	**Copper**	121	mg/kg	1.00	0.21		W031189	DG	08/10/10 11:14	
EPA 6010B	**Iron**	16200	mg/kg	6.0	1.0		W031189	DG	08/10/10 11:13	
EPA 6010B	**Lead**	4850	mg/kg	0.75	0.36		W031189	DG	08/10/10 11:14	
EPA 6010B	**Manganese**	6320	mg/kg	0.40	0.06		W031189	DG	08/10/10 13:27	
EPA 6010B	**Selenium**	24.4	mg/kg	4.0	1.4		W031189	DG	08/10/10 11:14	
EPA 6010B	**Silver**	39.6	mg/kg	0.50	0.04		W031189	DG	08/10/10 11:14	
EPA 6010B	**Zinc**	930	mg/kg	1.00	0.22		W031189	DG	08/10/10 11:14	
EPA 7471A	**Mercury**	2.13	mg/kg	0.330	0.095	10	W032137	JAA	08/05/10 15:19	D2
Percent Solids										
Percent Solids	**% Solids**	96.6	%	0.1			W031188	DP	07/29/10 09:44	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0G0719**
Reported: 10-Aug-10 15:52

Client Sample ID: **SMBGSS1**
SVL Sample ID: **W0G0719-02 (Soil)**

Sampled: 20-Jul-10 10:00
Received: 27-Jul-10
Sampled By: BS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	Antimony	< 2.0	mg/kg	2.0	0.3		W031189	DG	08/10/10 11:32	
EPA 6010B	**Arsenic**	18.0	mg/kg	2.5	0.5		W031189	DG	08/10/10 11:32	
EPA 6010B	**Barium**	358	mg/kg	0.20	0.02		W031189	DG	08/10/10 11:31	
EPA 6010B	**Cadmium**	0.75	mg/kg	0.20	0.03		W031189	DG	08/10/10 11:31	
EPA 6010B	**Chromium**	22.1	mg/kg	0.60	0.07		W031189	DG	08/10/10 11:31	
EPA 6010B	**Copper**	18.8	mg/kg	1.00	0.21		W031189	DG	08/10/10 11:31	
EPA 6010B	**Iron**	17700	mg/kg	6.0	1.0		W031189	DG	08/10/10 11:30	
EPA 6010B	**Lead**	102	mg/kg	0.75	0.36		W031189	DG	08/10/10 11:32	
EPA 6010B	**Manganese**	913	mg/kg	0.40	0.06		W031189	DG	08/10/10 13:42	
EPA 6010B	Selenium	< 4.0	mg/kg	4.0	1.4		W031189	DG	08/10/10 11:32	
EPA 6010B	**Silver**	0.85	mg/kg	0.50	0.04		W031189	DG	08/10/10 11:31	
EPA 6010B	**Zinc**	191	mg/kg	1.00	0.22		W031189	DG	08/10/10 11:31	
EPA 7471A	**Mercury**	0.063	mg/kg	0.033	0.010		W032137	JAA	08/05/10 13:03	
Percent Solids										
Percent Solids	**% Solids**	94.7	%	0.1			W031188	DP	07/29/10 09:44	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

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Laboratory Director

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IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0G0719**
Reported: 10-Aug-10 15:52

Client Sample ID: **SMDSS1**
SVL Sample ID: **W0G0719-03 (Soil)**

Sampled: 20-Jul-10 12:00
Received: 27-Jul-10
Sampled By: BS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	**Antimony**	145	mg/kg	2.0	0.3		W031189	DG	08/10/10 11:37	
EPA 6010B	**Arsenic**	201	mg/kg	2.5	0.5		W031189	DG	08/10/10 11:37	
EPA 6010B	**Barium**	2610	mg/kg	0.20	0.02		W031189	DG	08/10/10 11:37	
EPA 6010B	**Cadmium**	9.04	mg/kg	0.20	0.03		W031189	DG	08/10/10 11:37	
EPA 6010B	**Chromium**	62.2	mg/kg	0.60	0.07		W031189	DG	08/10/10 11:37	
EPA 6010B	**Copper**	217	mg/kg	1.00	0.21		W031189	DG	08/10/10 11:37	
EPA 6010B	**Iron**	26600	mg/kg	6.0	1.0		W031189	DG	08/10/10 11:36	
EPA 6010B	**Lead**	7570	mg/kg	0.75	0.36		W031189	DG	08/10/10 11:37	
EPA 6010B	**Manganese**	17300	mg/kg	4.00	0.65	10	W031189	DG	08/10/10 13:48	D2
EPA 6010B	**Selenium**	4.6	mg/kg	4.0	1.4		W031189	DG	08/10/10 11:37	
EPA 6010B	**Silver**	69.7	mg/kg	0.50	0.04		W031189	DG	08/10/10 11:37	
EPA 6010B	**Zinc**	1550	mg/kg	1.00	0.22		W031189	DG	08/10/10 11:37	
EPA 7471A	**Mercury**	6.28	mg/kg	0.330	0.095	10	W032137	JAA	08/05/10 15:24	D2
Percent Solids										
Percent Solids	**% Solids**	97.8	%	0.1			W031188	DP	07/29/10 09:44	

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Laboratory Director

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IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0G0719**
Reported: 10-Aug-10 15:52

Client Sample ID: **SMWD6SS1**
SVL Sample ID: **W0G0719-04 (Soil)**

Sampled: 20-Jul-10 13:00
Received: 27-Jul-10
Sampled By: BS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	**Antimony**	56.1	mg/kg	2.0	0.3		W031189	DG	08/10/10 11:43	
EPA 6010B	**Arsenic**	106	mg/kg	2.5	0.5		W031189	DG	08/10/10 11:43	
EPA 6010B	**Barium**	543	mg/kg	0.20	0.02		W031189	DG	08/10/10 11:43	
EPA 6010B	**Cadmium**	6.64	mg/kg	0.20	0.03		W031189	DG	08/10/10 11:43	
EPA 6010B	**Chromium**	21.6	mg/kg	0.60	0.07		W031189	DG	08/10/10 11:43	
EPA 6010B	**Copper**	68.1	mg/kg	1.00	0.21		W031189	DG	08/10/10 11:43	
EPA 6010B	**Iron**	16500	mg/kg	6.0	1.0		W031189	DG	08/10/10 11:42	
EPA 6010B	**Lead**	1230	mg/kg	0.75	0.36		W031189	DG	08/10/10 11:43	
EPA 6010B	**Manganese**	2640	mg/kg	0.40	0.06		W031189	DG	08/10/10 13:53	
EPA 6010B	**Selenium**	23.4	mg/kg	4.0	1.4		W031189	DG	08/10/10 11:43	
EPA 6010B	**Silver**	2.46	mg/kg	0.50	0.04		W031189	DG	08/10/10 11:43	
EPA 6010B	**Zinc**	1140	mg/kg	1.00	0.22		W031189	DG	08/10/10 11:43	
EPA 7471A	**Mercury**	0.210	mg/kg	0.033	0.010		W032137	JAA	08/05/10 13:09	
Percent Solids										
Percent Solids	**% Solids**	97.3	%	0.1			W031188	DP	07/29/10 09:44	

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Laboratory Director

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IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0G0719**
Reported: 10-Aug-10 15:52

Client Sample ID: **GTADSS1**
SVL Sample ID: **W0G0719-05 (Soil)**

Sampled: 21-Jul-10 16:00
Received: 27-Jul-10
Sampled By: BS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	**Antimony**	43.5	mg/kg	2.0	0.3		W031189	DG	08/10/10 11:49	
EPA 6010B	**Arsenic**	237	mg/kg	2.5	0.5		W031189	DG	08/10/10 11:49	
EPA 6010B	**Barium**	497	mg/kg	0.20	0.02		W031189	DG	08/10/10 11:49	
EPA 6010B	**Cadmium**	23.8	mg/kg	0.20	0.03		W031189	DG	08/10/10 11:49	
EPA 6010B	**Chromium**	12.4	mg/kg	0.60	0.07		W031189	DG	08/10/10 11:49	
EPA 6010B	**Copper**	394	mg/kg	1.00	0.21		W031189	DG	08/10/10 11:49	
EPA 6010B	**Iron**	47900	mg/kg	6.0	1.0		W031189	DG	08/10/10 11:47	
EPA 6010B	**Lead**	14800	mg/kg	7.50	3.60	10	W031189	DG	08/10/10 14:00	D2
EPA 6010B	**Manganese**	10400	mg/kg	4.00	0.65	10	W031189	DG	08/10/10 13:59	D2
EPA 6010B	**Selenium**	13.6	mg/kg	4.0	1.4		W031189	DG	08/10/10 11:49	
EPA 6010B	**Silver**	8.89	mg/kg	0.50	0.04		W031189	DG	08/10/10 11:49	
EPA 6010B	**Zinc**	7300	mg/kg	1.00	0.22		W031189	DG	08/10/10 11:49	
EPA 7471A	**Mercury**	0.593	mg/kg	0.033	0.010		W032137	JAA	08/05/10 13:10	
Percent Solids										
Percent Solids	**% Solids**	95.3	%	0.1			W031188	DP	07/29/10 09:44	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0G0719**
Reported: 10-Aug-10 15:52

Client Sample ID: **AMAD1SS1**
SVL Sample ID: **W0G0719-06 (Soil)**

Sampled: 22-Jul-10 08:00
Received: 27-Jul-10
Sampled By: BS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	Antimony	< 2.0	mg/kg	2.0	0.3		W031189	DG	08/10/10 11:55	
EPA 6010B	**Arsenic**	346	mg/kg	2.5	0.5		W031189	DG	08/10/10 11:55	
EPA 6010B	**Barium**	2220	mg/kg	0.20	0.02		W031189	DG	08/10/10 11:55	
EPA 6010B	**Cadmium**	6.86	mg/kg	0.20	0.03		W031189	DG	08/10/10 11:55	
EPA 6010B	**Chromium**	18.7	mg/kg	0.60	0.07		W031189	DG	08/10/10 11:55	
EPA 6010B	**Copper**	56.5	mg/kg	1.00	0.21		W031189	DG	08/10/10 11:55	
EPA 6010B	**Iron**	143000	mg/kg	60.0	10.3	10	W031189	DG	08/10/10 14:04	D2
EPA 6010B	**Lead**	2590	mg/kg	0.75	0.36		W031189	DG	08/10/10 11:55	
EPA 6010B	**Manganese**	32600	mg/kg	4.00	0.65	10	W031189	DG	08/10/10 14:04	D2
EPA 6010B	**Selenium**	6.0	mg/kg	4.0	1.4		W031189	DG	08/10/10 11:55	
EPA 6010B	**Silver**	9.54	mg/kg	0.50	0.04		W031189	DG	08/10/10 11:55	
EPA 6010B	**Zinc**	2820	mg/kg	1.00	0.22		W031189	DG	08/10/10 11:55	
EPA 7471A	**Mercury**	1.03	mg/kg	0.033	0.010		W032137	JAA	08/05/10 13:12	
Percent Solids										
Percent Solids	**% Solids**	98.3	%	0.1			W031188	DP	07/29/10 09:44	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0G0719**
Reported: 10-Aug-10 15:52

Client Sample ID: **UKADSS1**
SVL Sample ID: **W0G0719-07 (Soil)**

Sampled: 22-Jul-10 10:00
Received: 27-Jul-10
Sampled By: BS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	**Antimony**	2.3	mg/kg	2.0	0.3		W031189	DG	08/10/10 12:13	
EPA 6010B	**Arsenic**	51.5	mg/kg	2.5	0.5		W031189	DG	08/10/10 12:13	
EPA 6010B	**Barium**	842	mg/kg	0.20	0.02		W031189	DG	08/10/10 12:12	
EPA 6010B	**Cadmium**	1.38	mg/kg	0.20	0.03		W031189	DG	08/10/10 12:12	
EPA 6010B	**Chromium**	12.9	mg/kg	0.60	0.07		W031189	DG	08/10/10 12:12	
EPA 6010B	**Copper**	108	mg/kg	1.00	0.21		W031189	DG	08/10/10 12:12	
EPA 6010B	**Iron**	19600	mg/kg	6.0	1.0		W031189	DG	08/10/10 12:11	
EPA 6010B	**Lead**	848	mg/kg	0.75	0.36		W031189	DG	08/10/10 12:12	
EPA 6010B	**Manganese**	1970	mg/kg	0.40	0.06		W031189	DG	08/10/10 14:21	
EPA 6010B	**Selenium**	9.6	mg/kg	4.0	1.4		W031189	DG	08/10/10 12:13	
EPA 6010B	**Silver**	6.88	mg/kg	0.50	0.04		W031189	DG	08/10/10 12:12	
EPA 6010B	**Zinc**	2330	mg/kg	1.00	0.22		W031189	DG	08/10/10 12:12	
EPA 7471A	**Mercury**	3.50	mg/kg	0.330	0.095	10	W032137	JAA	08/05/10 15:25	D2
Percent Solids										
Percent Solids	**% Solids**	90.1	%	0.1			W031188	DP	07/29/10 09:44	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0G0719**
Reported: 10-Aug-10 15:52

Client Sample ID: **GMBGSS1**
SVL Sample ID: **W0G0719-08 (Soil)**

Sampled: 22-Jul-10 11:00
Received: 27-Jul-10
Sampled By: BS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	Antimony	< 2.0	mg/kg	2.0	0.3		W031189	DG	08/10/10 12:19	
EPA 6010B	**Arsenic**	24.4	mg/kg	2.5	0.5		W031189	DG	08/10/10 12:19	
EPA 6010B	**Barium**	67.6	mg/kg	0.20	0.02		W031189	DG	08/10/10 12:19	
EPA 6010B	**Cadmium**	0.70	mg/kg	0.20	0.03		W031189	DG	08/10/10 12:19	
EPA 6010B	**Chromium**	11.4	mg/kg	0.60	0.07		W031189	DG	08/10/10 12:19	
EPA 6010B	**Copper**	17.2	mg/kg	1.00	0.21		W031189	DG	08/10/10 12:19	
EPA 6010B	**Iron**	12100	mg/kg	6.0	1.0		W031189	DG	08/10/10 12:17	
EPA 6010B	**Lead**	151	mg/kg	0.75	0.36		W031189	DG	08/10/10 12:19	
EPA 6010B	**Manganese**	717	mg/kg	0.40	0.06		W031189	DG	08/10/10 14:26	
EPA 6010B	**Selenium**	5.7	mg/kg	4.0	1.4		W031189	DG	08/10/10 12:19	
EPA 6010B	**Silver**	0.65	mg/kg	0.50	0.04		W031189	DG	08/10/10 12:19	
EPA 6010B	**Zinc**	165	mg/kg	1.00	0.22		W031189	DG	08/10/10 12:19	
EPA 7471A	**Mercury**	0.075	mg/kg	0.033	0.010		W032137	JAA	08/05/10 13:20	
Percent Solids										
Percent Solids	**% Solids**	98.1	%	0.1			W031188	DP	07/29/10 09:44	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director

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IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0G0719**
Reported: 10-Aug-10 15:52

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods								
EPA 6010B	Antimony	mg/kg	<2.0	0.3	2.0	W031189	10-Aug-10	
EPA 6010B	Arsenic	mg/kg	<2.5	0.5	2.5	W031189	10-Aug-10	
EPA 6010B	Barium	mg/kg	<0.20	0.02	0.20	W031189	10-Aug-10	
EPA 6010B	Cadmium	mg/kg	<0.20	0.03	0.20	W031189	10-Aug-10	
EPA 6010B	Chromium	mg/kg	<0.60	0.07	0.60	W031189	10-Aug-10	
EPA 6010B	Copper	mg/kg	<1.00	0.21	1.00	W031189	10-Aug-10	
EPA 6010B	Iron	mg/kg	<6.0	1.0	6.0	W031189	10-Aug-10	
EPA 6010B	Lead	mg/kg	<0.75	0.36	0.75	W031189	10-Aug-10	
EPA 6010B	Manganese	mg/kg	<0.40	0.06	0.40	W031189	10-Aug-10	
EPA 6010B	Selenium	mg/kg	<4.0	1.4	4.0	W031189	10-Aug-10	
EPA 6010B	Silver	mg/kg	<0.50	0.04	0.50	W031189	10-Aug-10	
EPA 6010B	Zinc	mg/kg	<1.00	0.22	1.00	W031189	10-Aug-10	
EPA 7471A	Mercury	mg/kg	<0.033	0.030	0.033	W032137	05-Aug-10	

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods									
EPA 6010B	Antimony	mg/kg	85.3	100	85.3	80 - 120	W031189	10-Aug-10	
EPA 6010B	Arsenic	mg/kg	84.0	100	84.0	80 - 120	W031189	10-Aug-10	
EPA 6010B	Barium	mg/kg	94.0	100	94.0	80 - 120	W031189	10-Aug-10	
EPA 6010B	Cadmium	mg/kg	87.0	100	87.0	80 - 120	W031189	10-Aug-10	
EPA 6010B	Chromium	mg/kg	104	100	104	80 - 120	W031189	10-Aug-10	
EPA 6010B	Copper	mg/kg	98.5	100	98.5	80 - 120	W031189	10-Aug-10	
EPA 6010B	Iron	mg/kg	947	1000	94.7	80 - 120	W031189	10-Aug-10	
EPA 6010B	Lead	mg/kg	93.1	100	93.1	80 - 120	W031189	10-Aug-10	
EPA 6010B	Manganese	mg/kg	102	100	102	80 - 120	W031189	10-Aug-10	
EPA 6010B	Selenium	mg/kg	81.4	100	81.4	80 - 120	W031189	10-Aug-10	
EPA 6010B	Silver	mg/kg	4.50	5.00	90.0	80 - 120	W031189	10-Aug-10	
EPA 6010B	Zinc	mg/kg	89.9	100	89.9	80 - 120	W031189	10-Aug-10	
EPA 7471A	Mercury	mg/kg	0.885	0.833	106	80 - 120	W032137	05-Aug-10	

Quality Control - MATRIX SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	Antimony	mg/kg	134	90.7	100	43.8	75 - 125	W031189	10-Aug-10	M2
EPA 6010B	Arsenic	mg/kg	207	112	100	95.3	75 - 125	W031189	10-Aug-10	
EPA 6010B	Barium	mg/kg	649	623	100	R > 4S	75 - 125	W031189	10-Aug-10	M3
EPA 6010B	Cadmium	mg/kg	82.1	4.58	100	77.5	75 - 125	W031189	10-Aug-10	
EPA 6010B	Chromium	mg/kg	120	17.2	100	103	75 - 125	W031189	10-Aug-10	
EPA 6010B	Copper	mg/kg	215	121	100	93.7	75 - 125	W031189	10-Aug-10	
EPA 6010B	Iron	mg/kg	17600	16200	1000	R > 4S	75 - 125	W031189	10-Aug-10	M3
EPA 6010B	Lead	mg/kg	4050	4850	100	R > 4S	75 - 125	W031189	10-Aug-10	M3
EPA 6010B	Manganese	mg/kg	4870	6320	100	R > 4S	75 - 125	W031189	10-Aug-10	M3
EPA 6010B	Selenium	mg/kg	114	24.4	100	89.8	75 - 125	W031189	10-Aug-10	
EPA 6010B	Silver	mg/kg	38.5	39.6	5.00	R > 4S	75 - 125	W031189	10-Aug-10	M2
EPA 6010B	Zinc	mg/kg	922	930	100	R > 4S	75 - 125	W031189	10-Aug-10	M3
EPA 7471A	Mercury	mg/kg	2.73	2.13	0.167	R > 4S	75 - 125	W032137	05-Aug-10	D2,M1

One Government Gulch - PO Box 929 Kellogg ID 83837-0929 (208) 784-1258 Fax (208) 783-0891

IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0G0719**
Reported: 10-Aug-10 15:52

Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	RPD	RPD Limit	Batch ID	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	Antimony	mg/kg	147	134	100	9.2	20	W031189	10-Aug-10	
EPA 6010B	Arsenic	mg/kg	213	207	100	2.8	20	W031189	10-Aug-10	
EPA 6010B	Barium	mg/kg	692	649	100	6.4	20	W031189	10-Aug-10	
EPA 6010B	Cadmium	mg/kg	82.0	82.1	100	0.1	20	W031189	10-Aug-10	
EPA 6010B	Chromium	mg/kg	119	120	100	1.2	20	W031189	10-Aug-10	
EPA 6010B	Copper	mg/kg	220	215	100	2.4	20	W031189	10-Aug-10	
EPA 6010B	Iron	mg/kg	18400	17600	1000	4.6	20	W031189	10-Aug-10	
EPA 6010B	Lead	mg/kg	4500	4050	100	10.5	20	W031189	10-Aug-10	
EPA 6010B	Manganese	mg/kg	5770	4870	100	17.0	20	W031189	10-Aug-10	
EPA 6010B	Selenium	mg/kg	112	114	100	2.3	20	W031189	10-Aug-10	
EPA 6010B	Silver	mg/kg	39.8	38.5	5.00	3.4	20	W031189	10-Aug-10	
EPA 6010B	Zinc	mg/kg	965	922	100	4.6	20	W031189	10-Aug-10	
EPA 7471A	Mercury	mg/kg	2.28	2.73	0.167	17.9	20	W032137	05-Aug-10	D2,M3

Quality Control - POST DIGESTION SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	Antimony	mg/kg	177	90.7	100	86.5	75 - 125	W031189	10-Aug-10	
EPA 6010B	Silver	mg/kg	42.7	39.6	5.00	62.8	75 - 125	W031189	10-Aug-10	M2

Notes and Definitions

D2	Sample required dilution due to high concentration of target analyte.
M1	Matrix spike recovery was high, but the LCS recovery was acceptable.
M2	Matrix spike recovery was low, but the LCS recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to spike level. The LCS was acceptable.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable

WOG0719

Page 1 of 1

CHAIN OF CUSTODY RECORD

SVL Analytical, Inc • One Government Gulch • Kellogg, ID 83837 • (208) 784-1258 • FAX (208) 783-0891

FOR SVL USE ONLY
SVL JOB #

TEMP on Receipt.

Table 1. – Matrix Type
1 = Surface Water, 2 = Ground Water
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil
6 = Waste, 7 = Other

Report to Company:	ID, Dept of Envir. Quality
Contact:	Bruce Schuld
Address:	1410 N Hilton
	Boise Id 83706
Phone Number:	208 841 6179
FAX Number:	208 373 0154
E-mail:	bruce.schuld@deq.idaho.gov

Invoice Sent To:	
Contact:	
Address:	
Phone Number:	
FAX Number	
PO#	

Project Name: Texas Gilmore Mining D.

Sampler's Signature: Bruce Schuld

Indicate State of sample origination: _____ **USACE?** ☐ Yes ☐ No

	Sample ID	Collection Date	Collection Time	Collected by: (Init.)	Misc. Matrix Type (From Table 1)	Misc. No. of Containers	Preservative(s) Unpreserved	HNO_3, Filtered	HNO_3, Unfiltered	HCl	H_2SO_4	NaOH	Other (Specify)	Analyses Required: RCRA 8	Copper	Zinc	Manganese	Arsenic	Antimony	Rush Instructions (Days)	Comments
	Please take care to distinguish between: 1 and I, 2 and z, 5 and S, 0 and o. Thanks!																				
1	SMWD1SS1	7/20	9:45	BS	3	1	X							X	X	X	X	X	X		
2	SMBGSS1	7/20	10:00	BS	3	1	X							X	X	X	X	X	X		
3	UKAD1SS1	7/20	11:00	BS	3	1	X							X	X	X	X	X	X		
4	SMDSS1	7/20	12:00	BS	3	1	X								X	X	X	X	X		
5	SMWD6SS1	7/20	13:00	BS	3	1	X								X	X	X	X	X		
6	GTHDSS1	7/21	16:00	BS	3	1	X								X	X	X	X	X		
7	AMAD1SS1	7/22	8:00	BS	3	1	X								X	X	X	X	X		
8	UKADSS1	7/22	10:00	BS	3	1	X								X	X	X	X	X		
9	GMBESS1	7/22	11:00	BS	3	1	X								X	X	X	X	X		
10																					

Relinquished by: Bruce — Date: 7/23/10 — Time: [illegible] — Received by: [signature]

Relinquished by: _____ — Date: _____ — Time: _____ — Received by: _____

Date: 7/27/10 — Time: 12:50

* Sample Reject ☐ Return ☐ Dispose ☐ Store (30 Days)

White: LAB COPY Yellow: CUSTOMER COPY

SVL-COC 9/05

* SVL DID NOT RECEIVE THIS SAMPLE OF 7/27/10